

IN THE MATTER OF)	Docket No. AAA-10-0024
)	
The Dodge Company)	
165 and 181 Cambridgepark Drive)	
Cambridge, MA 02140)	NOTICE OF VIOLATION,
)	ADMINISTRATIVE ORDER,
)	AND
Proceeding under Sections)	REPORTING REQUIREMENT
113 and 114 of the Clean Air Act)	
)	

1. The United States Environmental Protection Agency Region 1 ("EPA") issues this Notice of Violation, Administrative Order and Reporting Requirement ("NOV," "AO," and "RR") to The Dodge Company ("Dodge" or "Respondent"), for Respondent's failure to comply with (a) the Risk Management Program ("RMP") regulations for its use and storage of formaldehyde; and (b) the General Duty Clause for its failure to identify hazards associated with other extremely hazardous substances at its Cambridge, Massachusetts, facility, in violation of Section 112(r) of the Clean Air Act ("CAA" or the "Act"), 42 U.S.C. § 7412(r), and the implementing regulations set forth at 40 C.F.R. Part 68.

2. The NOV and AO are issued under the authority of Section 113 of the CAA, 42 U.S.C. § 7413. The RR is issued under the authority of Section 114 of the CAA, 42 U.S.C. § 7414. Section 113(a)(3) of the Act, 42 U.S.C. § 7413(a)(3), provides that EPA may issue an order requiring compliance with the requirements or prohibitions

of Subchapter I of the Act (which include, among other things, the requirements of Section 112(r), 42 U.S.C. § 7412(r)). Section 114(a)(1), 42 U.S.C. § 7414(a)(1), gives EPA the authority to require a company to submit such information as EPA may reasonably require to determine compliance with the CAA.

STATUTORY AND REGULATORY AUTHORITY

3. Pursuant to Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1), owners and operators of stationary sources producing, processing, handling or storing substances listed pursuant to Section 112(r)(3) of the CAA, 42 U.S.C. § 7412(r)(3), or any other extremely hazardous substance, have a general duty to (a) identify hazards which may result from accidental releases of such substances using appropriate hazard assessment techniques; (b) design and maintain a safe facility taking such steps as are necessary to prevent releases; and (c) minimize the consequences of accidental releases that do occur. This section of the CAA is referred to as the “General Duty Clause.”

4. Section 112(r) of the CAA, 42 U.S.C. § 7412(r), also authorizes EPA to promulgate regulations and programs to prevent and minimize the consequences of the accidental release of certain regulated substances. In particular, Section 112(r)(3), 42 U.S.C. § 7412(r)(3), mandates that EPA promulgate a list of substances that are known to cause or may reasonably be anticipated to cause death, injury or serious adverse effects to human health or the environment if accidentally released. Section 112(r)(5), 42 U.S.C. § 7412(r)(5), requires that EPA establish for each regulated substance a threshold quantity over which an accidental release is known to cause or may reasonably be anticipated to cause death, injury or serious adverse effects to human health. Section

112(r)(7) of the CAA, 42 U.S.C. § 7412(r)(7), requires EPA to promulgate requirements for the prevention, detection and correction of accidental releases of regulated substances, including a requirement that owners or operators of certain stationary sources prepare and implement an RMP.

5. Section 112(r)(7)(E) of the CAA, 42 U.S.C. § 7412(r)(7)(E), renders it unlawful for any person to operate a stationary source subject to the regulations promulgated under the authority of Section 112(r) of the CAA, 42 U.S.C. § 7412(r), in violation of such regulations.

6. Section 113(a)(3) of the CAA, 42 U.S.C. § 7413(a)(3), authorizes EPA to issue compliance orders for violations of the Act, including violations of Section 112(r), 42 U.S.C. § 7412(r). A copy of the order must be sent to the relevant State air pollution control agency. An order relating to a violation of Section 112 of the CAA, 42 U.S.C. § 7412, can take effect immediately upon issuance.

7. The regulations promulgated pursuant to Section 112(r) of the CAA, 42 U.S.C. § 7412(r), are found at 40 C.F.R. Part 68 ("Part 68").

8. 40 C.F.R. § 68.130 lists the substances regulated under Part 68 and their associated threshold quantities ("RMP chemicals" or "regulated substances") in accordance with the requirements of Section 112(r)(3) of the CAA, 42 U.S.C. § 7412(r)(3).

9. Under 40 C.F.R. § 68.10, an owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process must comply with the requirements of Part 68 by no later than the latest of the following dates:

(a) June 21, 1999; (b) three years after the date on which a regulated substance is first listed under 40 C.F.R. § 68.130; or (c) the date on which a regulated substance is first present above a threshold quantity in a process. Additionally, 40 C.F.R. § 68.190(b) requires that the owner or operator of a stationary source must revise and update the RMP submitted to EPA at least once every five years from the date of its initial submission or most recent update.

10. Each process in which a regulated substance is present in more than a threshold quantity (“covered process”) is subject to one of three Risk Management Programs. Program 1 is the least comprehensive, and Program 3 is the most comprehensive. Pursuant to 40 C.F.R. § 68.10(b), a covered process is subject to Program 1 if, among other things, the distance to a toxic or flammable endpoint for a worst-case release assessment is *less* than the distance to any public receptor. Under 40 C.F.R. § 68.10(d), a covered process is subject to Program 3 if the process does not meet the eligibility requirements for Program 1 and is either in a specified NAICS code or subject to the Occupational Safety and Health Administration (“OSHA”) process safety management (“PSM”) standard at 29 C.F.R. § 1910.119. Forty C.F.R. § 68.10(c) prescribes that a covered process that meets neither Program 1 nor Program 3 eligibility requirements is subject to Program 2.

11. Forty C.F.R. § 68.12 mandates that the owner or operator of a stationary source implement the chemical accident prevention provisions of Part 68 to which it is subject and submit an RMP. The RMP documents compliance with Part 68. For example, the RMP for a Program 3 process documents compliance with the elements of a Program 3 Risk Management Program, including 40 C.F.R. § 68.12 (General

Requirements); 40 C.F.R. § 68.15 (Management System to Oversee Implementation of RMP); 40 C.F.R. Part 68, Subpart B (Hazard Assessment to Determine Off-Site Consequences of a Release); 40 C.F.R. Part 68, Subpart D (Program 3 Prevention Program, including the Program 3 components listed in paragraph 28 below); and 40 C.F.R. Part 68, Subpart E (Emergency Response Program).

12. Additionally, 40 C.F.R. § 68.190(b) dictates that the owner or operator of a stationary source must revise and update the RMP submitted to EPA at least once every five years from the date of its initial submission or most recent update.

GENERAL ALLEGATIONS

13. Dodge operates a facility at 165 and 181 Cambridgepark Drive, Cambridge, Massachusetts (the “Facility”), where Dodge blends, packages and sells embalming chemicals and other funerary products. Dodge stores and uses formaldehyde, isopropanol, methanol, acetone, methyl ethyl ketone, ethyl acetate, and nitrocellulose, among other chemicals, in the compounding of its finished products.

14. The Facility is located in a business park that includes offices, a daycare, restaurants, residential buildings, and Alewife Station, a Massachusetts Bay Transit Authority transportation center. Three large apartment buildings are located within a quarter mile radius of the Facility. In addition, the property is located approximately 400 feet from the banks of the Little River, which flows into Alewife Brook.

15. Dodge is a corporation organized under the laws of the Commonwealth of Massachusetts. As a corporation, Dodge is a “person” within the meaning of Section

302(e), against whom an Administrative Order may be issued under Section 113(a)(3) of the Act, 42 U.S.C. § 7413(a)(3).

16. Dodge is the operator of a “stationary source” as that term is defined at Section 112(r)(2)(C) of the CAA, 42 U.S.C. § 7412(r)(2)(C), and 40 C.F.R. § 68.3.

17. Dodge uses formaldehyde, a RMP Chemical, at the Facility. Other chemicals found at the Facility, such as methanol, isopropanol, acetone, ethyl acetate, methyl ethyl ketone and nitrocellulose, are “extremely hazardous substances” subject to the General Duty Clause of the CAA because of their flammability or explosive characteristics.

18. On January 6, 2010, EPA conducted an inspection at the Facility to determine its compliance with Section 112(r) of the CAA, 42 U.S.C. § 7413(r), and the Emergency Planning and Community Right-to-Know Act (“EPCRA”). EPA also performed a follow-up inspection at the Facility on January 8, 2010.

19. At the time of the inspection, the Facility housed approximately 5,000 gallons, or about 45,000 pounds, of a 37% formaldehyde solution in one bulk tank. That tank was interconnected with other mixing vessels that contained formaldehyde (“interconnected system”).

20. Formaldehyde is a RMP Chemical listed at 40 C.F.R. § 68.130, having a threshold quantity of 15,000 pounds.

21. The storage of over 15,000 pounds of formaldehyde in an interconnected system is a “covered process” as that term is defined in 40 C.F.R. § 68.3.

22. Chemical inventory reports submitted by Dodge pursuant to EPCRA indicate that Dodge also stored formaldehyde in amounts over the threshold quantity in 2007, 2008, and 2009.

23. The endpoint for a worse case release of this amount of formaldehyde at the Facility is *greater* than the distance to a public receptor.

24. Formaldehyde in an amount over the threshold quantity of 1,000 pounds is subject to OSHA's PSM requirements at 29 C.F.R. § 1910.119.

25. As the operator of a stationary source that has more than the threshold amount of regulated substance in a covered process, Dodge is subject to the RMP requirements of Part 68. In accordance with 40 C.F.R. § 68.10(a)-(d), Dodge's storage and processing of formaldehyde is subject to the requirements of RMP Program 3. The covered process is subject to Program 3 because (1) the distance to a toxic or flammable endpoint for a worst-case release of formaldehyde is more than the distance to a public receptor, making the process ineligible for Program 1; and (2) the process is subject to OSHA's PSM regulations.

26. Likewise, as the operator of a stationary source that processes, handles or stores extremely hazardous substances, Dodge also is subject to the General Duty Clause found in Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1).

27. In 1999, Dodge submitted a Program 3 RMP, which it updated on June 22, 2004. As of the dates of the inspection, Dodge had not submitted its five-year (i.e., 2009) update to the RMP.

28. During EPA's inspection, and EPA inspector asked Dodge questions from the "RMP Program Level 3 Process Checklist" (the "Checklist") to ascertain Dodge's compliance with the following Program 3 components:

- a. Five-Year Accident History [40 C.F.R. § 68.42(b)]
- b. Process Safety Information [40 C.F.R. § 68.65]
- c. Process Hazard Analysis [40 C.F.R. § 68.67]
- d. Operating Procedures [40 C.F.R. § 68.69]
- e. Training [40 C.F.R. § 68.71]
- f. Mechanical Integrity [40 C.F.R. § 68.73]
- g. Management of Change [40 C.F.R. § 68.75]
- h. Pre-Startup Safety Review [40 C.F.R. § 68.77]
- i. Compliance audit [40 C.F.R. § 68.79]
- j. Incident Investigation [40 C.F.R. § 68.81]
- k. Employee Participation [40 C.F.R. § 68.83]
- l. Hot Work Permit [40 C.F.R. § 68.85]
- m. Contractors [40 C.F.R. § 68.87]

The Checklist and a summary of Dodge's oral responses to those questions is contained in Attachment A to this NOV, AO, RR. Dodge's responses indicated that, at the time of inspection, Dodge did not yet have all the above program elements in place.

29. During the inspection, EPA inspectors observed some potentially dangerous chemical management practices at the Facility, including, but not limited to, the following¹:

a. **Potentially dangerous conditions in the storage and processing of formaldehyde in the Compounding Room.** The Compounding Room is where most bulk chemicals, including formaldehyde, methanol, propylene glycol and sodium EDTA, are stored, blended, and mixed at the Facility. The Pit within the Compounding Room is used for the bulk storage of chemicals, including formaldehyde, propylene glycol, isopropanol, and sodium EDTA, and has a floor that is 4 feet lower than the rest of the room in order to contain spillage that might result from the failure of the bulk storage tanks. The Compounding Room also contains a Mixing Area and a Hazardous Waste Storage Area. The following potentially dangerous conditions were observed in the Compounding Room:

- i. *Insecurely fastened or closed tanks:* Some of the Pit bulk storage tanks, containing chemicals including formaldehyde, lacked fastenings to the floor, creating a risk that the tanks would float in the event of a spill. Also some of the tanks in the mixing area were inadequately closed, creating the risk of spills or release of vapors.
- ii. *Unprotected piping:* The Pit bulk storage tanks, containing chemicals including formaldehyde, had plastic valves and pipes that were located near the floor of the Pit. Some of the pipes had “do not step” stenciled on the pipe, but none had physical protection, such as a metal covering, to prevent the pipe from

¹ While this AO does not include a finding that all the potentially dangerous chemical management practices listed in this paragraph constitute General Duty Clause or Part 68 violations, some may be. They should be considered in Dodge’s hazard analyses.

breaking in the event that it was stepped on or something was dropped on it. This was especially problematic given the lack of emergency back-up lighting during power outages.

iii. *Unlabeled shut-off valves and piping:* In the Mixing Area, where bulk formaldehyde and other chemicals are pumped into smaller tanks and blended, some piping and shut-off valves lacked labeling. Such labeling would facilitate an emergency response involving the shut-off valves during an accidental release of the chemicals.

iv. *Leaking Tanks:* A formaldehyde tank (#9), located in the Mixing Area of the Compounding/Blending Room, was leaking.

v. *No automatic vapor sensors:* Levels of formaldehyde vapors in the Compounding Room are measured by “badge” detectors worn by personnel. No other sensors or detectors were apparent to independently measure the amount of formaldehyde vapors present in the room. The lack of such detectors could be problematic given that the area is not manned three days per week.

vi. *Lack of Secondary Containment:* EPA inspectors noted a number of cracks in the floor of the Compounding Room and red stains on the floor indicating where mixtures containing formaldehyde had been spilled. Additionally, gaps between the wall and the floor of the Compounding Room were noted.

vii. *No Emergency Lighting:* During the inspection of the Compounding Room, there was a general power failure, resulting in the temporary cessation of all lighting and ventilation fans. When power was restored, the ventilation fans resumed operation, but the metal halide lighting in the room took approximately

ten minutes to reignite. Especially in light of the unprotected, breakable plastic piping used in the room, the delay in the reignition of the lighting in the Compounding Room could result in an accidental release of formaldehyde.

viii. *Lack of Secondary Containment in the Hazardous Waste Storage Area:* In the hazardous waste storage area of the Compounding Room, which directly flanks a door to the truck bay, inspectors observed drums of hazardous waste stored without adequate secondary containment, such that spills could have gone directly outdoors.

b. **Potentially dangerous conditions in the storage and processing of extremely hazardous substances in the Flammables Storage Area.** The Flammables Storage Area contains numerous flammable and extremely hazardous substances, including, among others, nitrocellulose, acetone, ethyl acetate, and methyl ethyl ketone. The following potentially dangerous conditions were observed in the Flammables Storage Area:

- i. *Leaking drum:* One drum was observed to be leaking.
- ii. *Cracked floor:* Cracks were present in the floor of the Flammables Storage Area, presenting a potential danger of release to the environment (depending on the depth of the cracks).
- iii. *Potentially dangerous storage of nitrocellulose:* Nitrocellulose was co-located with other flammable and extremely hazardous substances. In the event of a fire involving co-located flammable liquids, the nitrocellulose could dry out and explode.

iv. *Lack of adequate ventilation and vapor sensors:* The Flammables Storage Room was unventilated unless someone was actively working in the room. There were no automatic vapor sensors to detect buildup of flammable vapors in this unventilated space.

v. *Congestion:* The room was congested such that it was not possible to access drums located in the back of the room or read their labels. This lack of access could be dangerous in the event of an emergency.

d. Potentially dangerous conditions in the storage and processing of extremely hazardous substances in the Bulk Chemical Delivery Area. The Bulk Chemical Delivery Area is on the outside wall of 165 Cambridgepark Drive. It contains fill connections to the tanks in the Pit, as well as outlets for ventilation from the Compounding Room. Covers and access ports for the underground storage tanks for isopropanol and methanol also are in this area. The rear of the Bulk Chemical Delivery Area slopes down toward a wetland and the Little River, which is about 400 feet away. The following potentially dangerous conditions were observed in the Bulk Chemical Delivery Area:

i. *Lack of Security:* The inspectors observed no fence surrounding the building or Bulk Chemical Delivery Area, and the wall of the area was covered with graffiti, which graffiti extended to the ventilation outlets of the Pit. Thus, the public could access the ventilation outlets and fill connections to various tanks of formaldehyde and flammable chemicals. Although the outside fill connections to the bulk tanks in the Pit were locked, the fill connection pipes were plastic and the locks could be easily removed.

ii. *Lack of secondary containment:* The Bulk Chemical Delivery Area did not have berms, depressions or drains to collect or divert any spills or leaks of chemicals during delivery, although the rear of the property leads downhill to a wetland and the Little River.

NOTICE OF VIOLATIONS

I. FAILURE TO IDENTIFY AND EVALUATE HAZARDS

30. The allegations in Paragraphs 13 through 29 are hereby realleged and incorporated herein by reference.

31. Pursuant to 40 C.F.R. § 68.67, the owner or operator of a Program 3 process is required to perform an initial process hazard analysis on covered processes. The process hazard analysis must identify, evaluate, and control the hazards involved in the process. Additionally, the owner or operator must update the process hazard analysis every five years and when a major change in the process occurs; and comply with the documentation requirements of 40 C.F.R. § 68.67.

32. Pursuant to the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412, owners and operators of stationary sources producing, processing, handling or storing extremely hazardous substances have a general duty to identify hazards which may result from accidental releases of such substances.

33. As described in Paragraph 28 above, Dodge personnel orally responded to questions on the RMP Program Level 3 Process Checklist. The answers to the questions about 40 C.F.R. § 68.67 indicated that Dodge had not yet conducted a process hazard analysis.

34. As described in Paragraph 29 above, EPA inspectors observed potentially dangerous chemical storage practices at the Facility that indicated a failure to identify hazards associated with the Program 3 formaldehyde process. For example, Dodge did not identify potential hazards associated with the following: lack of fastening for all bulk storage tanks; lack of physical protection for plastic piping from tanks; adequate labeling of shut-off valves; lack of automatic vapor sensors in the Compounding Room; cracks in the floor and gaps between the floor and walls near formaldehyde tanks; a leaking tank; inadequate illumination; and public access to ventilation ducts and fill connections to indoor storage tanks.

35. As described in Paragraph 29 above, EPA inspectors also observed potentially dangerous chemical management practices associated with extremely hazardous substances other than formaldehyde (such as nitrocellulose, acetone, methyl ethyl ketone, ethyl acetate, and hazardous waste) that are subject to the General Duty Clause. These practices indicate a failure to identify hazards associated with the release of extremely hazardous substances.

36. Accordingly, Dodge violated the requirements to identify hazards as required under 40 C.F.R. § 68.50 (RMP) and the General Duty Clause, Section 112(r)(1) of the CAA, 42 U.S.C. § 7412(r)(1).

II. FAILURE TO COMPLY WITH PROGRAM 3 SAFETY INFORMATION REQUIREMENTS

37. The allegations in Paragraphs 13 through 36 are hereby realleged and incorporated herein by reference.

38. Pursuant to 40 C.F.R. § 68.65, the owner or operator of a Program 3 process is required, among other things, to compile written process safety information; document information pertaining to the hazards of the regulated substances in the process and the technology and equipment of the process; document that the equipment complies with recognized and generally accepted good engineering practices; and for equipment that was designed according to outdated standards, document that the equipment is designed, maintained, inspected, tested, and operating in a safe manner.

39. As described in Paragraph 28 above, Dodge personnel orally responded to questions from the RMP Program Level 3 Process Checklist. Dodge's answers to the questions about 40 C.F.R. § 68.65 (included in Attachment A) indicate that, at the time of the inspection, Dodge had not yet compiled complete process safety information; documented information pertaining to the technology and equipment of the process; and documented that the equipment complied with recognized and generally accepted good engineering practices.

40. Accordingly, Dodge violated the process safety information requirements of 40 C.F.R. § 68.65.

III. FAILURE TO COMPLY WITH PROGRAM 3 OPERATING PROCEDURES REQUIREMENTS

41. The allegations in Paragraphs 13 through 40 are hereby realleged and incorporated herein by reference.

42. Pursuant to 40 C.F.R. § 68.69, the owner or operator of a Program 3 process is required to develop and implement written operating procedures that provide instructions or steps for safely conducting activities associated with the covered process.

The owner or operator must also make these procedures available to employees who are involved in the process; update the procedures to reflect current operating practices; certify annually that the operating procedures are current; and implement safe work practices to control hazards during specific operations.

43. As described in Paragraph 28 above, Dodge personnel orally responded to questions from the RMP Program Level 3 Process Checklist. Dodge's answers to the questions about 40 C.F.R. § 68.69 (included in Attachment A) indicate that, at the time of the inspection, Dodge had not yet completed developing and implementing written operating procedures, making such procedures available to employees; certified annually that the operating procedures were current; or completed the development of safe work practices to control hazards during specific operations.

44. Accordingly, Dodge violated 40 C.F.R. § 68.69.

IV. FAILURE TO COMPLY WITH PROGRAM 3 TRAINING REQUIREMENTS

45. The allegations in Paragraphs 13 through 44 are hereby realleged and incorporated herein by reference.

46. Pursuant to 40 C.F.R. § 68.71, the owner or operator of a Program 3 process must train each employee involved in operating a process, provide refresher training at least every three years, and document such training.

47. As described in Paragraph 28 above, Dodge personnel orally responded to questions from the RMP Program Level 3 Process Checklist. Dodge's answers to the questions about 40 C.F.R. § 68.71 (included in Attachment A) indicate that, at the time of

the inspection, Dodge had not completed refresher training or documented employee training.

48. Accordingly, Dodge violated 40 C.F.R. § 68.71.

V. FAILURE TO COMPLY WITH PROGRAM 3 MECHANICAL INTEGRITY REQUIREMENTS

49. The allegations in Paragraphs 13 through 48 are hereby realleged and incorporated herein by reference.

50. Pursuant to 40 C.F.R. § 68.73, the owner or operator of a Program 3 process must establish written procedures to maintain the ongoing integrity of certain process equipment; train employees in the ongoing integrity of process equipment; inspect and test such equipment; follow generally accepted good engineering practices for inspections and testing procedures; document inspections and tests performed on process equipment; correct deficiencies in the equipment; assure that any new equipment is suitable for the process application; perform appropriate checks and inspections to ensure that equipment is installed properly; and assure that maintenance materials and spare parts are suitable for the process application.

51. As described in Paragraph 28 above, Dodge personnel orally responded to questions from the RMP Program Level 3 Process Checklist. Dodge's answers to the questions about 40 C.F.R. § 68.73 (included in Attachment A) indicate that, with the exception of initially training employees in the ongoing integrity of the process equipment, Dodge had not complied with the Program 3 mechanical integrity requirements.

52. Accordingly, Dodge violated 40 C.F.R. § 68.73.

VI. FAILURE TO COMPLY WITH PROGRAM 3 MANAGEMENT OF CHANGE REQUIREMENTS

53. The allegations in Paragraphs 13 through 52 are hereby realleged and incorporated herein by reference.

54. Pursuant to 40 C.F.R. § 68.75, the owner or operator of a Program 3 process must establish and implement written procedures to manage changes to process chemicals, technology, equipment, procedures, and changes to stationary sources that affect a covered process. In addition, the regulation lists considerations that the owner or operator must assess prior to making any such changes.

55. As described in Paragraph 28 above, Dodge personnel orally responded to questions from the RMP Program Level 3 Process Checklist. Dodge's answers to the questions about 40 C.F.R. § 68.75 (included in Attachment A) indicate that Dodge did not have in place any element of a management of change program.

56. Accordingly, Dodge violated 40 C.F.R. § 68.75.

VII. FAILURE TO COMPLY WITH PROGRAM 3 COMPLIANCE AUDIT REQUIREMENTS

57. The allegations in Paragraphs 13 through 56 are hereby realleged and incorporated herein by reference.

58. Pursuant to 40 C.F.R. § 68.79, the owner or operator of a Program 3 process must evaluate compliance with the provisions of the prevention program at least every three years; document the audit findings; promptly determine and document a response to each of the findings of the audit; document that deficiencies have been corrected; and retain the two most recent compliance reports.

59. As described in Paragraph 28 above, Dodge personnel orally responded to questions from the RMP Program Level 3 Process Checklist. Dodge's answers to the questions about 40 C.F.R. § 68.79 (included in Attachment A) indicate that Dodge had not completed such compliance audits or retained the most recent compliance reports.

60. Accordingly, Dodge violated the compliance audit requirements of 40 C.F.R. § 68.79.

VIII. FAILURE TO COMPLY WITH PROGRAM 3 CONTRACTOR REQUIREMENTS

61. The allegations in Paragraphs 13 through 60 are hereby realleged and incorporated herein by reference.

62. Pursuant to 40 C.F.R. § 68.87, the owner or operator of a Program 3 process must take certain steps to ensure that the contractors do not inadvertently cause a chemical release. Those steps include evaluating information regarding the contractor's safety performance and programs when selecting a contractor; informing the contractor of known hazards relating to the contractors work and the process; explaining the emergency response program to the contractor; and developing and implementing safe work practices to control the entrance, presence, and exit of the contractor in covered process areas.

63. As described in Paragraph 28 above, Dodge personnel orally responded to questions from the RMP Program Level 3 Process Checklist. Dodge's answers to the questions about 40 C.F.R. § 68.87 (included in Attachment A) indicate that Dodge did not yet have any contractor safety program in place at the time of the inspection.

64. Accordingly, Dodge violated the contractor requirements of 40 C.F.R. § 68.87.

IX. FAILURE TO RE-SUBMIT A RISK MANAGEMENT PLAN

65. The allegations in Paragraphs 13 through 64 are hereby realleged and incorporated herein by reference.

66. Pursuant to 40 C.F.R. § 68.190(b), the owner or operator of a stationary source must revise and update the RMP submitted to EPA at least once every five years from the date of its initial submission or most recent update. Sections 68.150-68.185 of Part 68 set out the required elements of the RMP and RMP update.

67. Dodge failed to timely update and resubmit a Program 3 RMP for formaldehyde after its previous registration had expired. Upon request by EPA inspectors, Dodge was unable to provide written components of its RMP for formaldehyde at the time of inspection and in subsequent correspondence.

68. By failing to re-submit an RMP for formaldehyde, Dodge was in violation of 40 C.F.R. § 68.190(b).

ADMINISTRATIVE ORDER

69. **As soon as possible, but no later than forty-five (45) days from the effective date of this order,** Dodge shall:

For Covered Formaldehyde Processes

a. certify and document that Dodge is in compliance with all risk management program elements to which Dodge is subject for its covered formaldehyde processes, including:

- i. 40 C.F.R. § 68.12 (General Requirements);
 - ii. 40 C.F.R. § 68.15 (Management System to Oversee Implementation of RMP);
 - iii. 40 C.F.R. Part 68, Subpart B (Hazard Assessment to Determine Off-Site Consequences of a Release);
 - iv. 40 C.F.R. Part 68, Subpart D (Program 3 Prevention Program);
 - v. 40 C.F.R. Part 68, Subpart E (Emergency Response Program); and
 - vi. 40 C.F.R. Part 68, Subpart G (Risk Management Plan Submittal Requirements);
- b. submit the updated RMP electronically, in accordance with the submittal directions found at www.epa.gov/emergencies/content/rmp/index.htm#submitting; and
- c. mail a copy of the updated RMP and all the underlying documentation to the people listed in paragraph 70.

For Extremely Hazardous Substances Other Than Formaldehyde in Covered Processes, Including all Flammable Chemicals and Formaldehyde That Is Not in Covered Processes

d. For extremely hazardous substances *other* than formaldehyde in covered processes (including all flammable chemicals, explosive chemicals, and any formaldehyde that is not in covered processes), develop and submit to EPA a work plan and schedule to conduct a hazard analysis of the Facility pursuant to the General Duty Clause, Section 112(r)(1), 42 U.S.C. § 7412(r)(1). This schedule and work plan, once approved by EPA, shall be enforceable under this AO. Dodge shall complete the hazard analysis as soon as possible, but no later than December 31, 2010, and the hazard analysis shall contain, at a minimum, the following elements:

- i. an assessment of all the hazards that could result from an accidental release of extremely hazardous substances other than formaldehyde in covered processes, including, but not limited to an assessment of the chemical storage/management practices discussed above in paragraph 29;
- ii. recommendations and a schedule for addressing any findings.

70. Notice: Dodge shall submit all notices, schedules, workplans, certification and documentation required by this order to:

Leonard Wallace
Environmental Scientist, OES
EPA Region 1
Mailcode: OES05-1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Catherine Smith, Esquire
Senior Enforcement Counsel, OES
EPA Region 1
Mailcode: OES04-4
5 Post Office Square, Suite 100
Boston, MA 02109-3912.

REPORTING REQUIREMENT

71. Pursuant to Section 114(a)(1) of the CAA, 42 U.S.C § 7414(a)(1), Dodge shall submit the following information to the EPA staff listed in Paragraph 70 within ninety days of receipt of this NOV, AO and RR:

a. From September 30, 2005, to the present, indicate whether Dodge had on site any of the substances listed under 40 C.F.R. 68.130 (including, but not limited to, formaldehyde) in excess of the RMP threshold amounts. If yes, list the substances, the years in which they were present; the amount in which they were present; where at the Facility such substances were stored and/or processed; and the size of the containers in which such substances were stored and/or processed.

b. Please state whether, from September 30, 2005, through the present, Dodge has had in place any of the following elements of a Program 3 RMP program.

Provide a separate response for each numbered subparagraph. If Dodge answers in the affirmative to any of the following subparagraphs, provide a brief explanation, and provide all substantiating documentation, including, but not limited to, the date upon which Dodge put the Program 3 element into place. There is no need to provide a second copy of any document that Dodge may have submitted pursuant to Paragraph 69(c), provided that Dodge references such document in its response to this RR.

- i. Worst case release scenario [see 40 C.F.R. §§ 68.12(b) and (c) and 68.25];
- ii. Five year accident history [see 40 C.F.R. §§ 68.12(b) and (c) and 68.42];
- iii. Coordination of response actions with local emergency planning and response agencies [see 30 C.F.R. §§ 68.12(b) and (c)];
- iv. Development of a system to manage RMP compliance [40 C.F.R. § 68.15];
- v. Performance of a hazard assessment, including the following elements:
(1) off-site consequence analysis; (2) worst case release scenario analysis;
(3) alternative release scenario analysis; (4) five year accident history; and
(5) documentation of analyses, methodology and data [40 C.F.R. Part 68, Subpart B];
- vi. Compilation and maintenance of: (1) safety information pertaining to the hazards of the regulated substances in each process, including toxicity information, permissible exposure limits, physical data, reactivity data, corrosivity data, thermal and chemical stability data, and hazardous effects of inadvertent mixing of different materials that could foreseeably occur

[40 C.F.R. § 68.65(b)]; (2) information pertaining to the technology of each process [40 C.F.R. § 68.65(c)]; and (3) information pertaining to the equipment in the process [40 C.F.R. § 68.65(d)];

- vii. Performance of initial and updated process hazard analyses with the following characteristics: (1) appropriateness to the complexity of each process, and identification, evaluation and control of the hazards involved in each process [40 C.F.R. § 68.67(a)]; (2) employment of one or more methodologies, such as what-if, checklist, what-if/checklist, hazard and operability study, failure mode and effects analysis, fault tree analysis or an appropriate equivalent [40 C.F.R. § 68.67(b)]; (3) discussion of the hazards of the process, including identification of any previous incident which had a likely potential for catastrophic consequences, engineering and administrative controls applicable to the hazards and their interrelationships such as appropriate application of detection methodologies to provide early warning of releases, consequences of the failure of engineering and administrative controls; stationary source siting; human factors; and a qualitative evaluation of a range of the possible safety and health effects of a failure of controls [40 C.F.R. § 68.67(c)]; (4) performance of the analysis by a team with expertise in engineering and process operations, including at least one employee with experience and knowledge specific to the process and one team member with knowledge of the specific process hazard analysis methodology being used [40 C.F.R. § 68.67(d)]; (5) establishment of a system to promptly address the team's

findings and recommendations, including timely resolution of recommendations, documentation and communication with operating, maintenance and other employees whose work assignments are in the process [40 C.F.R. § 68.67(e)]; (6) update and revalidation of initial process hazard analysis at least every five years [40 C.F.R. § 68.67(f)]; and (7) retention of process hazard analyses and updates or revalidations for each process, as well as documented resolution of recommendations for the life of the process [40 C.F.R. § 68.67(g)];

- viii. Development and implementation of written operating procedures that:
- (1) provide clear instructions for safely conducting activities in each process and are consistent with process safety information [40 C.F.R. § 68.69(a)];
 - (2) address steps of each operating phase, including initial start up, normal operations, temporary operations, emergency shutdown, emergency operations, normal shutdown and startup following a turnaround or emergency shutdown [40 C.F.R. § 68.69(a)(1)];
 - (3) address operating limits, including consequences of deviation and steps required to correct or avoid deviation [40 C.F.R. § 68.69(a)(2)];
 - (4) address safety and health considerations, including properties of, and hazards presented by, the chemicals used in the process, precautions necessary to prevent exposure (engineering controls, administrative controls, and personal protective equipment), control measures to be taken if physical contact or airborne exposure occurs, quality control for raw materials and control of hazardous chemical inventory levels, and any special or unique hazards

- [40 C.F.R. § 68.69(a)(3)]; and (5) address safety systems and their functions [40 C.F.R. § 68.69(a)(4)];
- ix. Ready accessibility of operating procedures to employees who work in or maintain a process [40 C.F.R. § 68.69(b)];
 - x. Review of operating procedures as often as necessary to assure that they reflect current operating practice, and annual certification that operating procedures are current and accurate [40 C.F.R. § 68.69(c)];
 - xi. Development and implementation of safe work practices for employees and contractors to control hazards during operations such as lockout/tagout, confined space entry, opening process equipment or piping and control over entrance into a stationary source by maintenance, contractor, laboratory or other support personnel [40 C.F.R. § 68.69(d)];
 - xii. Training practices for employees, including (1) initial training in an overview of a process and in operating procedures with emphasis on specific safety and health hazards, emergency operations including shutdowns and applicable safe work practices, or certification that an employee involved has the required knowledge, skills and abilities to safely carry out the duties and responsibilities specified in the operating procedures [40 C.F.R. § 68.71(a)]; (2) refresher training at least every three years [40 C.F.R. § 68.71(b)]; (3) documentation of training for each employee involved in operating a process [40 C.F.R. § 68.71(c)];
 - xiii. Implementation of controls to assure the mechanical integrity of pressure valves, storage tanks, piping systems and components (including valves),

relief and vent systems and devices, emergency shutdown systems, controls (including monitoring devices and sensors, alarms and interlocks) and pumps, including: written procedures, training for process maintenance activities, inspection and testing, correction of equipment deficiencies and quality assurance [40 C.F.R 68.71];

- xiv. Implementation of written procedures to manage changes to process chemicals, technology, equipment and procedures, including: (1) consideration of the technical basis for the proposed change, the impact on safety and health, modifications to the operating procedures, timing, and authorization requirements [40 C.F.R. § 68.75(b)]; (2) notification and training for employees whose job tasks will be affected by a change prior to start-up [40 C.F.R. § 68.75(c)]; update of process safety information and operating procedures affected by the change [40 C.F.R. § 68.75(d) and (e)];

- xv. Pre-startup review for new stationary sources and for modified stationary sources when the modification is significant enough to require a change in the process safety information, confirming that: (1) construction and equipment are in accordance with design specifications [40 C.F.R. § 68.77(b)(1)]; (2) safety, operating, maintenance and emergency procedures are in place and adequate [40 C.F.R. § 68.77(b)(2)]; (3) for new stationary sources, a process hazard analysis has been performed and recommendations have been resolved or implemented before startup, and for modified stationary sources, the management of change requirements

have been met [40 C.F.R. § 68.77(3)]; (4) training for each employee involved in operating a process has been completed [40 C.F.R. § 68.77(4)];

xvi. Evaluation and certification of compliance with Part 68 at least every three years to verify that procedures and practices are adequate and being followed, including a compliance audit conducted by at least one person knowledgeable in the process, a report of the findings of the audit, determination and documentation of response to each finding of the audit and correction of deficiencies, and retention by source of two most recent reports [40 C.F.R. § 68.79];

xvii. Investigation of each incident which resulted in, or could reasonably have resulted in, a catastrophic release of a regulated substance, including the following characteristics: (1) initiation of investigation as promptly as possible, but no later than 48 hours after the incident [40 C.F.R. § 68.81(b)]; (2) an incident investigation team consisting of at least one person with knowledge in the process involved and other persons with appropriate knowledge to thoroughly investigate and analyze the incident [40 C.F.R. § 68.81(c)]; (3) a report, including the date of incident, the date the investigation began, a description of the incident, factors contributing to the incident and recommendations resulting from the investigation [40 C.F.R. § 68.81(d)]; (4) establishment and documentation of a system to promptly address and resolve incident report findings and recommendations [40 C.F.R. § 68.81(e)]; review of the report with all

personnel whose job tasks are relevant to the incident findings [40 C.F.R. § 68.81(f)]; and retention of reports for five years [40 C.F.R. § 68.81(g)];

- xviii. Participation of employees, including the development of a written plan regarding the implementation of the participation, consultation with employees on the conduct and development of process hazards analyses and elements of process safety management, and provision of access to employees to process hazard analyses and other information required by Part 68 [40 C.F.R. § 68.83];
- xix. Issuance of hot work permits for hot work operations conducted on or near a covered process, including documentation that fire prevention and protection requirements have been implemented prior to beginning the operations, indication of authorized dates, identification of object on which work is to be performed, and retention of permit on file until completion of work [40 C.F.R. § 68.85];
- xx. With regard to contractors performing maintenance, repair, turnaround, major renovations or specialty work on or adjacent to a covered process:
 - (1) obtaining safety performance and program information for contractors [40 C.F.R. § 68.87(b)(1)]; (2) disclosure to contractor of known potential fire, explosion, or toxic release hazards related to the contractor's work and the process [40 C.F.R. § 68.87(b)(2)]; (3) explanation to contractor of emergency response provisions of Subpart E [40 C.F.R. § 68.87(b)(3)]; (4) development and implementation of safe work practices to control entrance, presence and exit of contractors in a covered process area [40

C.F.R. § 68.87(b)(4)]; and (5) evaluation of the performance of contractors in assuring proper training of contract employees in safe work practices, instruction of contract employees in potential fire, explosion or toxic release hazards and in emergency action plan, documentation of contract employee training, assuring contract employee compliance with safety rules and safe work practices, and disclosure by contractor of hazards in contractor's work [40 C.F.R § 68.87(b)(5) and (c)].

xxi: With regard to an Emergency Response Program, the elements contained in 40 C.F.R. §§ 68.90 and 95.

c. Provide EPA with an estimate of the cost savings realized, if any, by failing to comply with Program 3 RMP requirements for formaldehyde from September 30, 2005, to the present. Include all costs, including, but not limited to, costs associated with contractor fees, equipment upgrades, paperwork, and facility upgrades. If Dodge put in place any elements of a Program 3 RMP for formaldehyde, provide EPA with the dates when any RMP expenditures took place and the actual costs of complying with the Program 3 requirements, including, but not limited to completion of an RMP, facility upgrades, and equipment upgrades.

d. The violations alleged in Counts I-VIII above, are based, in part on Dodge's oral responses to the RMP Program Level 3 Checklist (Attachment A) on January 10, 2010. If any answers were wrong, incomplete, or require fuller explanation, please provide such information, including supporting documentation. Likewise, if any of the deficiencies have been corrected since the date of the inspection, provide an explanation of when and how they were corrected and supply supporting documentation.

In responding to this question, there is no need to supply information that is redundant to information provided in response to questions (b) and (c) above.

e. Provide a copy of all permits and licenses that have been issued to Dodge concerning its handling of formaldehyde and flammable chemicals (for example, permits issued by the fire department).

f. Provide a copy of any audits or hazard analyses that have been completed since 1998 with regard to Dodge's handling and storage of formaldehyde and flammable chemicals, including, without limitation, the "What If/Checklist" referenced in Dodge's June 22, 2004 RMP update and audits/hazard analyses completed by insurance companies, process safety management specialists, the Local Emergency Planning Committee, etc.

g. Indicate whether Dodge has overfill controls on any of its tanks in the Compounding Area (bulk tanks and mixing tanks).

h. Provide information on Dodge's net worth and annual sales for 2007 through 2010.

ENFORCEMENT

72. At any time after the issuance of this AO, EPA may take any or all of the following actions: issue a further order requiring compliance with the Act; issue an administrative penalty order for up to \$37,500 per day for each violation; or bring a civil or criminal action seeking an injunction and penalties. See Sections 113(a)-(d) of the CAA, 42 U.S.C. §§ 7413(a)-(d); 40 C.F.R. Part 19; and 73 Fed. Reg. 75340-75346 (December 11, 2008) (Clean Air Act penalties raised from \$25,000 to \$32,500 for

violations occurring between March 15, 2004 and January 12, 2009, and to \$37,500 for violations occurring after January 12, 2009). Be advised that Section 113(e)(2) of the Act, 42 U.S.C. § 7413(e)(2), contains provisions that affect the burden of proof with respect to violations which continue following issuance of a Notice of Violation.

73. Be advised that issuance of this NOV and AO does not preclude EPA from electing to pursue any other remedies or sanctions authorized by law that are available to address these and other violations. This NOV and AO do not resolve Dodge's liability for past violations of the Act or for any violations that continue from the date of this NOV and AO up to the date of compliance.

74. Neither EPA nor the United States, by the issuance of this NOV/AO/RR, assumes any liability for any acts or omissions by Dodge or Dodge's employees, agents, contractors or consultants engaged to carry out any action or activity pursuant to this NOV/AO/RR, nor shall EPA or the United States be held as a party to any contract entered into by Dodge or Dodge's employees, agents, contractors or consultants engaged to carry out the requirements of this NOV/AO/RR.

EFFECTIVE DATE AND APPLICABILITY

75. This NOV/AO/RR shall take effect immediately. The AO shall apply to Dodge, its officers, agents, servants, employees, successors and assigns, and to all persons, firms and corporations acting under, through or for Dodge. This action is not subject to Office of Management and Budget review under the Paperwork Reduction Act, 44 U.S.C. Chapter 35.

76. If Dodge has any questions regarding this NOV/AO/RR, please contact Leonard Wallace at (617) 918-1835, or have your legal counsel contact Catherine Smith, Senior Enforcement Counsel, at (617) 918-1777. Dodge may request an opportunity to confer with EPA about this NOV/AO/RR by contacting Leonard Wallace or Catherine Smith at the phone numbers listed above within seven days of receiving this NOV/AO/RR.

Susan Studlien
Susan Studlien, Director
Office of Environmental Stewardship
U.S. Environmental Protection Agency
Region 1 – New England

09/29/10
Date

Dodge's Response to Program 3 Process Checklist Questions (Questions asked by EPA Orally on January 8, 2010)

Program Level 3 Process Checklist

Facility Name: The Dodge Company165 Cambridgepark Drive, Cambridge, MA 02140

Section C: Prevention Program

Implemented the Program 3 prevention requirements as provided in 40 CFR 68.65 - 68.87?

S ☐ M ☒ U ☐ N/A

Comments:

Prevention Program- Process Safety information [68.65]

<p>1. Has the owner or operator compiled written process safety information, which includes information pertaining to the hazards of the regulated substances used or produced by the process, information pertaining to the technology of the process, and information pertaining to the equipment in the process, before conducting any process hazard analysis required by the rule? [68.65(a)]</p> <p>Does the process safety information contain the following for hazards of the substances: [68.65(b)]</p> <p><input checked="" type="checkbox"/> a. Toxicity information? [68.65(b)(1)]</p> <p><input checked="" type="checkbox"/> b. Permissible exposure limits? [68.65(b)(2)]</p> <p><input type="checkbox"/> c. Physical data? [68.65(b)(3)]</p> <p><input type="checkbox"/> d. Reactivity data? [68.65(b)(4)]</p> <p><input type="checkbox"/> e. Corrosivity data? [68.65(b)(5)]</p> <p><input type="checkbox"/> f. Thermal and chemical stability data? [68.65(b)(6)]</p> <p><input type="checkbox"/> g. Hazardous effects of inadvertent mixing of materials that could foreseeably occur? [68.65(b)(7)]</p>	<p><input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A</p> <p>Not Completely</p>
<p>2. Has the owner documented information pertaining to technology of the process?</p> <p><input type="checkbox"/> A block flow diagram or simplified process flow diagram? [68.65(c)(1)(i)]</p> <p><input type="checkbox"/> Process chemistry? [68.65(c)(1)(ii)]</p> <p><input type="checkbox"/> Maximum intended inventory? [68.65(c)(1)(iii)]</p> <p><input type="checkbox"/> Safe upper and lower limits for such items as temperatures, pressures, flows, or compositions? [68.65(c)(1)(iv)]</p> <p><input type="checkbox"/> An evaluation of the consequences of deviation? [68.65(c)(1)(iv)]</p> <p><input type="checkbox"/> Does the process safety information contain the following for the equipment in the process: [68.65(d)(1)]</p> <p><input type="checkbox"/> Materials of construction? [68.65(d)(1)(i)]</p> <p><input type="checkbox"/> Piping and instrumentation diagrams [68.65(d)(1)(ii)]</p> <p><input type="checkbox"/> Electrical classification? [68.65(d)(1)(iii)]</p> <p><input type="checkbox"/> Relief system design and design basis? [68.65(d)(1)(iv)]</p> <p><input type="checkbox"/> Ventilation system design? [68.65(d)(1)(v)]</p> <p><input type="checkbox"/> Design codes and standards employed? [68.65(d)(1)(vi)]</p> <p><input type="checkbox"/> Material and energy balances for processes built after June 21, 1999? [68.65(d)(1)(vii)]</p> <p><input type="checkbox"/> Safety systems? [68.65(d)(1)(viii)]</p>	<p><input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A</p> <p>High Level Chemicals</p> <p>H1 H2</p> <p>Tanks underground</p> <p>MEOH IPOH</p> <p>Had 1999 Standards</p>
<p>3. Has the owner or operator documented that equipment complies with recognized and generally accepted good engineering practices? [68.65(d)(2)]</p>	<p><input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A</p>
<p>4. Has the owner or operator determined and documented that existing equipment, designed and constructed in accordance with codes, standards, or practices that are no longer in general use, is designed, maintained, inspected, tested, and operating in a safe manner? [68.65(d)(3)]</p>	<p><input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A</p> <p>Not Done</p>

Attachment A

Dodge's Response to Program 3 Process Checklist Questions (Questions asked by EPA Orally on January 8, 2010)

Program Level 3 Process Checklist

Facility Name: The Dodge Company

165 Cambridgepark Drive, Cambridge, MA 02140

Prevention Program- Process Hazard Analysis [68.67]

5. Has the owner or operator performed an initial process hazard analysis (PHA), and has this analysis identified, evaluated, and controlled the hazards involved in the process? [68.67(a)]	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A
6. Has the owner or operator determined and documented the priority order for conducting PHAs, and was it based on an appropriate rationale? [68.67(a)]	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A
7. Has the owner used one or more of the following technologies to conduct process PHA: [68.67(b)] <input type="checkbox"/> What-if? [68.67(b)(1)] <input type="checkbox"/> Checklist? [68.67(b)(2)] <input type="checkbox"/> What-if/Checklist? [68.67(b)(3)] <input type="checkbox"/> Hazard and Operability Study (HAZOP) [68.67(b)(4)] <input type="checkbox"/> Failure Mode and Effects Analysis (FMEA) [68.67(b)(5)] <input type="checkbox"/> Fault Tree Analysis? [68.67(b)(6)] <input type="checkbox"/> An appropriate equivalent methodology? [68.67(b)(7)]	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A In Process
8. Did the PHA address: <input type="checkbox"/> The hazards of the process? [68.67(c)(1)] <input type="checkbox"/> Identification of any incident which had a likely potential for catastrophic consequences? [68.67(c)(2)] <input type="checkbox"/> Engineering and administrative controls applicable to hazards and interrelationships? [68.67(c)(3)] <input type="checkbox"/> Consequences of failure of engineering and administrative controls? [68.67(c)(4)] <input type="checkbox"/> Stationary source siting? [68.67(c)(5)] <input type="checkbox"/> Human factors? [68.67(c)(6)] <input type="checkbox"/> An evaluation of a range of the possible safety and health effects of failure of controls? [68.67(c)(7)]	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A In process
9. Was the PHA performed by a team with expertise in engineering and process operations and did the team include appropriate personnel? [68.67(d)]	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A
10. Has the owner or operator established a system to promptly address the team's findings and recommendations; assured that the recommendations are resolved in a timely manner and documented; documented what actions are to be taken; completed actions as soon as possible; developed a written schedule of when these actions are to be completed; and communicated the actions to operating, maintenance, and other employees whose work assignments are in the process and who may be affected by the recommendations? [68.67(e)]	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A Working on